

Soil Quality Enhancement Activity - SQL02 – Continuous cover crops



Enhancement Description

Growing continuous *seasonal* cover crops of grasses, legumes or forbs following all annual crops during all the non-crop production periods of the rotation. Continuous cover cropping is applicable to conventional, specialty and organic crop production systems.

Land Use Applicability

Cropland.

Benefits

Growing seasonal cover crops during all non-crop periods between annual crops reduces wind and water erosion. Cover crops also restore and maintain soil productivity and soil quality over a wide range of climates and crop species. They do so by increasing organic matter, improving soil fertility, breaking pest cycles and providing habitat for soil macro-fauna, such as earthworms.

Criteria

Implementation of this enhancement requires continuous cover crops during the non-crop production period of the rotation. The cover crops must meet 2 or more of the following criteria:

1. High bio-mass cover crops for erosion control and increased soil organic matter improvement.
 - a. Plant a cover crop with a growth potential to produce a minimum of 2,000 lbs/acre (dry weight) above ground bio-mass when terminated by harvest, frost, mowing, tillage, crimping, and/or herbicides in preparation for the following crop.
2. Legume cover crops for biological nitrogen fixation.
 - a. Plant a leguminous cover crop between two primary crops in the rotation, or plant a leguminous crop that replaces one of the primary crops. This enhancement does not apply to legumes that are normally part of the crop rotation. It shall be seeded at a rate recommended by the NRCS Field Office technical Guide. Estimate nitrogen credits from the leguminous crop and base any additional N applications according to the guidelines of the Land Grant University.
3. Non-leguminous cover crops to capture and recycle residual nitrogen.
 - a. Plant a cover crop with a growth rate and rooting depth sufficient to scavenge excess nitrogen from the root zone of the previous crop. Seed the cover crop at the rate recommended by the NRCS Field Office Technical Guide. Reduce the nitrogen recommendation for the following crop by the amount of nitrogen estimated to have been scavenged and recycled by this cover crop.



This enhancement does not apply to the same acres on which a leguminous cover crop is applied.

4. Cover crops for weed suppression.
 - a. Plant a cover crop with the chemical and physical characteristics necessary to suppress or compete with the identified target weed species. Leave cover crop residues on the soil surface to maximize the allelopathic (chemical) and mulching (physical) effects. Select cover crops as recommended in the NRCS Field Office Technical Guide or from the Land Grant University as appropriate.
5. Biodiversity improvement with cover crops.
 - a. Plant cover crop species with the characteristics to attract beneficial insects such as pollinators and/or predator insects, serve as trap crops for damaging insects, and/or provide natural bio-fumigation for soil dwelling pests. Select cover crops to meet the planned objective as recommended in the NRCS Field Office Technical Guide or from the Land Grant University as appropriate.

Documentation Requirements

1. Crop rotation records, including rotation length in years, crops and cover crops planted.
2. Sequence and description of operations for each crop and cover crop including harvest, tillage, nutrient placement and planting/seeding

ALABAMA SUPPLEMENT TO ENHANCEMENT SQL02 CONTINUOUS COVER CROP

This enhancement is designed to improve soil quality by increasing organic matter, improving soil fertility, breaking pest cycles and reducing erosion. Cover crops are required to be grown during all non-crop periods between annual crops on cropland. The cover crops must meet 2 or more of the criteria described in the national enhancement, 1) High biomass cover crop, 2) legume cover crop, 3) non-leguminous cover crop, 4) weed suppression cover crop, and 5) biodiversity improvement with cover crop. For additional information see the national enhancement and the cover crop list below. Refer to the NRCS Conservation Practice Standard Cover Crops, 340, for information on planting dates and rates.

Documentation Requirements:

1. Crop rotation records, including rotation length in years, crop and cover crop planted.
2. Sequence and description of operations for each crop and cover crop including harvest, tillage, nutrient placement and planting/seeding.

Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5
High Biomass	Legume Cover - N Fixation	Non-legumes- Capture and Recycle Residual N	Cover Crops for Weed Suppression	Biodiversity
Barley	Arrowleaf clover	Barley	Barley	Arrowleaf clover
Berseem clover	Austrian winter peas	Brassica crops	Brassica crops	Austrian winter peas
Crimson clover	Berseem clover	Millet (pearl, browntop)	Buckwheat	Barley
Hairy vetch	Crimson clover	Oats	Cereal grains + /- annual clovers	Brassica crops
Mustard, radish, canola	Hairy Vetch	Rye	Hairy vetch	Buckwheat
Oats	Red Clover	Sorghums	Ryegrass	Clovers
Pearl millet	Subterranean clover	Sorghum-sudangrass	Sorghum-sudangrass	Hairy vetch
Red clover		Sudangrass	Sudangrass	Rye
Rye		Triticale		Ryegrass
Sorghums		Wheat		Sorghum-sudangrass
Sorghum-sudangrass				
Subterranean clover				
Sudangrass				
Triticale				
Wheat				

References:

Managing Cover Crops Profitably, 3rd Edition

<http://www.sare.org/publications/covercrops/covercrops.pdf>

Cover crops and rotations. D.W. Reeves

http://www.ars.usda.gov/SP2UserFiles/Place/64200500/csr/ResearchPubs/reeves/reeves_94e.pdf

Alabama Soil Testing and Fertilizer Recommendations:

<http://www.ag.auburn.edu/agrn/croprec/NutrientRecsIndex.html>

Alabama, Conservation Practice Standard Cover Crops (340)

<http://efotg.sc.egov.usda.gov//references/public/AL/340rev04.pdf>

ALABAMA SUPPLEMENTAL INFORMATION FOR THIS ENHANCEMENT

SQL02 - Continuous Cover Crops

Documentation Form

Producer Name:		Date:		
Tract Number(s):		County:		
Field Number(s):				
Crops in Rotation:				
Years in Rotation:				
Planting Date				
Cover Crop(s) Planted:				
Cover Crop(s) Planting Date:				
<i>Operation Description:</i>				
Type of Tillage:				
Timing of Tillage:				
Nutrient Placement:				
Planting/Seeding:				
Harvest Date:				

The supplied documentation accurately reflects the implementation of this enhancement.

SIGNATURE: _____